

Page 7, line 6, change "erasing of the image" to  
--eliminating of the shadow images--.

Page 7, line 12, penultimate line of the previous  
amendment insertion after " $\alpha_1$ - $\alpha_{12}$  are angles of inclination of  
sides of said cells to the", insert --intended direction of  
motion of the grid which, in turn, is parallel to the--.

IN THE CLAIMS:

Please cancel Claims 19-24, 26 and 27 with prejudice,  
and substitute therefor the following new claims:

Sub M(17) 29. A cellular X-ray grid for use in an X-ray imaging  
system with a radiation point source and an X-ray film,  
comprising:

monolithically surrounded by a frame and having at least one longitudinally-  
extending side, and a layer of radiation absorbent material  
completely covering and overlying said grid including said main  
part and frame, said main part including a top face and a bottom  
face, and a multiplicity of throughbores formed therethrough  
extending from said top face to said bottom face and defining  
cells to pass radiation emitted by said point source through said  
main part to form an X-ray image on an X-ray film underlying said  
monolithic perforated  
a cellular X-ray grid, including a main part  
monolithic solid

grid, said cells each being rectangular in cross-section and having opposite sidewalls defining partitions extending between said top and bottom faces of said ~~panel~~ <sup>main part</sup> disposed at such a predetermined, non-diagonal angle to said longitudinally-extending side of said main ~~body~~ part so as to eliminate shadow images of the cells on an X-ray image on the film during exposure thereof to the radiation point source during movement of said grid, and means for moving said grid in a predetermined rectilinear direction, with said longitudinally-extending side of said main part being oriented parallel to said direction of movement.

30. A cellular X-ray grid according to Claim 29, wherein said cells have longitudinal axes extending normally to said top and bottom faces of said main part.

31. A cellular X-ray grid according to Claim 29, wherein said cells have longitudinal axes which radially extend toward the ~~radiation point source~~ <sup>focal point of grid</sup>.

32. A cellular X-ray grid according to Claim 29, wherein said main part and frame are composed of photosensitive glass.

33. A cellular X-ray grid, comprising a main part and having two opposite end surfaces and a peripheral surface, said

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cont.  
main part being provided with a plurality of X-ray transmissive cells extending through said main part from one of said end surfaces to the other of said end surfaces and separated by a plurality of partitions each having side surfaces facing a respective one of said cells and also each having two opposite end surfaces, and an X-ray absorbing layer which completely covers all surfaces of each of said partitions so as to cover both said side surfaces and said end surfaces of each of said partitions.

M1  
34. A cellular X-ray grid as defined in Claim 33, wherein said main part has a frame adjoining said peripheral surface, said X-ray absorbing layer also completely covering said frame from all sides.

35. A cellular X-ray grid as defined in Claim 33, wherein said main part and frame are composed of photosensitive glass.

36. A cellular X-ray grid as defined in Claim 33 wherein said X-ray absorbing layer completely covers all surfaces of said grid including said partitions and all surfaces of said frame.

37. A cellular X-ray grid as defined in Claim 33, and further comprising two plates arranged at opposite end surfaces

of said main part and connected with the latter, said plates being composed of a material capable of transmitting a long-wave component of X-ray radiation.

38. A cellular X-ray grid as defined in Claim 37, wherein said cells contain a vacuum.

39. A cellular X-ray grid as defined in Claim 37, wherein said cells contain a gas.

40. A cellular X-ray grid as defined in Claim 33, wherein said main part has two opposite longitudinal sides, said cells on a view from at least one of said end surfaces having two opposite sides each inclined relative to at least one of said longitudinal sides of said main part at one of the following Mattsson angles:

$$\tan \alpha_1 = 1/3l + 3i; \quad \tan \alpha_2 = 1/2l + 2i; \quad \tan \alpha_3 = 1/l + i;$$

$$\tan \alpha_4 = 2l + i/l + i; \quad \tan \alpha_5 = 3l + 2i/l + i;$$

$$\tan \alpha_6 = 2l + i/2l + 2i; \quad \tan \alpha_7 = 1 + i/3l + 2i;$$

$$\tan \alpha_8 = 1 + i/2l + i; \quad \tan \alpha_9 = 1 + i/l;$$

$$\tan \alpha_{10} = 2l + 2i/l; \quad \tan \alpha_{11} = 3l + 3i/l;$$

$$\tan \alpha_{12} = 2l + 2i/2l + i$$

wherein  $l$  is a thickness of each of said partitions in a direction perpendicular to sides of said partitions of two neighboring

cells, and  $i$  is a length of said side of each of said cells; and  $\alpha_1 - \alpha_{12}$  is an angle of inclination of said sides of cells to the intended direction of motion which is parallel to the longitudinal side of said grid, and means for moving said main part in a predetermined rectilinear direction, said at least one longitudinal side of said main part extending parallel to said direction so that said opposite sides of said cells are inclined to said direction of movement at one of said Mattsson angles.

41. A cellular X-ray grid comprising a main part having two opposite surfaces and a peripheral surface and provided with a plurality of X-ray transmissive cells filled with gas or vacuum, said cells extending through said main part from one of said end surfaces to another of said end surfaces and separated by a plurality of X-ray absorbing partitions each having side surfaces facing a respective one of said cells and also each having two opposite end surfaces, said main part having two opposite longitudinal sides.

42. A cellular grid as defined in Claim 41, where said cells on a view from at least one of said end surfaces having two opposite sides each inclined relative to at least one of said longitudinal sides of said main part at one of the following Mattsson-angles:

$$\begin{aligned}
\tan \alpha_1 &= l/3l + 3i; & \tan \alpha_2 &= l/2l + 2i; & \tan \alpha_3 &= l/l + i; \\
\tan \alpha_4 &= 2l + i/l + i; & \tan \alpha_5 &= 3l + 2i/l + i; \\
\tan \alpha_6 &= 2l + i/2l + 2i; & \tan \alpha_7 &= l + i/3l + 2i; \\
\tan \alpha_8 &= l + i/2l + i; & \tan \alpha_9 &= l + i/l; \\
\tan \alpha_{10} &= 2l + 2i/l; & \tan \alpha_{11} &= 3l + 3i/l; \\
\tan \alpha_{12} &= 2l + 2i/2l + i
\end{aligned}$$

wherein  $l$  is a thickness of each of said partitions in a direction perpendicular to sides of said partitions of two neighboring cells, and  $i$  is a length of said side of each of said cells; and  $\alpha_1 - \alpha_{12}$  is an angle of inclination of said sides of cells to the intended direction of motion which is parallel to the longitudinal side of grid, and means for moving said main part in a predetermined rectilinear direction, said at least one longitudinal side of said main part extending parallel to said direction so that said opposite sides of said cells are inclined to said direction of movement at one of said Mattsson angles.

#### REMARKS

Reconsideration and withdrawal of the rejection with respect to all the claims now in the application (i.e., Claims 29-42), is respectfully requested in view of the foregoing amendments and the following remarks.